

From: [Openchowski, Charles](#)
To: [Lynch, Mary-Kay](#); [Michaud, John](#)
Subject: FW: Review of West Lake Landfill Draft Work Plans
Date: Wednesday, July 31, 2013 3:55:00 PM

Fyi, following up on our meeting this afternoon, just want to let you know how I responded to Doug's email -- thanks

From: Openchowski, Charles
Sent: Wednesday, July 31, 2013 4:54 PM
To: Ammon, Doug; Gravatt, Dan
Cc: Legare, Amy; Asher, Audrey
Subject: RE: Review of West Lake Landfill Draft Work Plans

Hi Doug, thanks for sending along the February 28, 2013 document; I'm not sure what you mean when you say that it is not necessarily consistent with the Board's draft memos prepared between February and May of 2012, but would be interested in specific substantive inconsistencies you have identified. I don't believe Board members changed their minds over time on the key substantive concerns, comments and recommendations formulated at the February 2012 review meeting; my subsequent conversations with Board members and corresponding email traffic certainly do not support any significant changes in their point of view since the review meeting. I did notice that the February 28, 2013 document is shorter than the previous draft Board memos, a number of recommendations have been cut or changed, and there is new language that I don't remember being articulated by actual Board members (some of which is not complete or fully accurate, but unfortunately I was not given an opportunity to review and comment on this version before it was apparently finalized).

I also would like to clarify that what is attached (the "12.19.12 file" below) is not a "memo from Charles" but rather a compilation of Board members' concerns, comments and recommendations; as I said in my December 20th email (and on other occasions): "Since I often help Board members put their comments and recommendations into writing, I volunteered to do the same here." In other words, it is not my memo, it's the Board's thoughts, comments, concerns etc that I offered to compile from Board draft memos – those of us who were asked to carry out this exercise (both Board and non-Board members) believed it was the most appropriate way to proceed in light of the Board's review of the site in February, 2012.

With regard to the alternative cover designs work plan, I had asked (when Dan's email arrived in early February of this year) how you would like to proceed, and can't find a reply – there may be one that just got lost in the whole 365 transition which was about that time. Sorry I didn't follow up on this sooner, but what I can offer at this point is that the Board's draft recommendation memos, as well as the technical consultation document signed in February of this year, all indicate the same thing:

The package presented to Board described an alternative as a hybrid cap/cover design incorporating both Resource Conservation and Recovery Act (RCRA) Subtitle D and Uranium Mill Tailings Radiation Control Act (UMTRCA) cover design features applied to an existing unlined landfill. However, the package lacked sufficient information on the long-term protectiveness of this alternative. Specifically, how the cap/cover remains protective given the increasing daughter ingrowth concentrations of

radium 226/228, radon 222, and the increase in toxicity over time (1,000 years).

Both of these cover designs (RCRA Subtitle D and UMTRCA) have shortcomings for RIM waste itself, especially in a humid region. A comparison of various landfill capping designs addressing both humid region conditions and long-term protection from RIM (1,000 years) would be an important concept for the preferred remedy. However, the package did not appear to include alternative cap designs, i.e., EPA landfill cap guidance design, existing cap designs for similar RIM at Weldon Springs, or evapotranspiration cover cap system designs (OSWER Fact Sheets: EPA 542-F11-001, February 2011, *Fact Sheet on Evapotranspiration Cover Systems for Waste Containment*). For example, a RCRA Subtitle C/UMTRCA hybrid may be suitable for both long-term infiltration management and radiation shielding protection. The Board suggests that the Region include in its remedy selection process evaluations of cap designs similar to, but not limited to, the above conditions and guidances.

From a very quick scan, the alternative cover designs work plan addresses some of this, but not all of it (for example, the Board specifically mentioned Weldon Springs, the work plan does not). I'm happy to work more on this if you'd like. Thanks

From: Ammon, Doug
Sent: Monday, July 29, 2013 12:07 PM
To: Openchowski, Charles; Gravatt, Dan
Cc: Legare, Amy; Asher, Audrey
Subject: RE: Review of West Lake Landfill Draft Work Plans

From: Openchowski, Charles
Sent: Monday, July 29, 2013 11:48 AM
To: Ammon, Doug; Gravatt, Dan
Cc: Legare, Amy; Asher, Audrey
Subject: RE: Review of West Lake Landfill Draft Work Plans

Hi Doug, could you send me the February consultation memo – I don't remember it being sent out to Board members. thanks

From: Ammon, Doug
Sent: Monday, July 29, 2013 11:44 AM
To: Gravatt, Dan
Cc: Legare, Amy; Openchowski, Charles; Asher, Audrey
Subject: FW: Review of West Lake Landfill Draft Work Plans

Dan,

The attached memo from Charles is not necessarily consistent with the Board's final February 2013 consultation memo since it cites earlier drafts. We probably should have an internal call to figure out the substance of the review comments and a path forward.

From: Doug Ammon [<mailto:Ammon.Doug@epamail.epa.gov>]
Sent: Monday, July 29, 2013 10:35 AM
To: Ammon, Doug
Subject: Fw: Review of West Lake Landfill Draft Work Plans

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----- Forwarded by Doug Ammon/DC/USEPA/US on 07/29/2013 10:35 AM -----

From: Charles Openchowski/DC/USEPA/US
To: Doug Ammon/DC/USEPA/US@EPA
Cc: David Bartenfelder/DC/USEPA/US@EPA, Helen Dawson/DC/USEPA/US@EPA, Ron Wilhelm/DC/USEPA/US@EPA, Stuart Walker/DC/USEPA/US@EPA, John Michaud/DC/USEPA/US@EPA
Date: 12/20/2012 05:28 PM
Subject: Re: Review of West Lake Landfill Draft Work Plans

Hi Doug, thanks for your email below. We wanted to get back to you by the 20th as you asked, and have tried hard to be as comprehensive as possible in the attached document, given our crowded schedules, the amount of time we had to review, the complexities of the site, and its long history.

The four of us have had several phone conversations and met in person to go over the four draft work plans attached below. Since the four of us are members of the Remedy Review Board and/or participated in the RRB review of the Westlake site in late February this year, we looked at these work plan documents guided by the comments and recommendations prepared by the Board in various versions coordinated with all members between February and May of this year, while the meeting was still fresh in everyone's mind. Since I often help Board members put their comments and recommendations into writing, I volunteered to do the same here.

Each of the work plan documents below refers to the October 12, 2012 letter from Region 7 (also attached to your email), which in turn refers to various Board recommendations and/or positions. Since we are not aware of, and have not seen, a final Board document containing recommendations for this site, we are not sure exactly what the October 12, 2012 letter is based on.

Also, we will be happy to take a look at the work plans on "Alternative Landfill Cap Designs" and "Fate and Transport Modeling" when they come in. We noticed that a number of issues discussed by the Board at the meeting and in draft Board memos (like ARARs, for example) don't seem to be addressed by the four work plans below, but realize they may be addressed in the two that are still in the works.

Please let us know if you have any questions, we'd be happy to discuss these further. thanks

(See attached file: rrb Westlake work plans 12.19.12.docx)

▼ Doug Ammon---12/06/2012 03:08:35 PM---Please find attached 4 draft work plans for additional analysis for the West Lake Landfill and other

From: Doug Ammon/DC/USEPA/US

To: Stuart Walker/DC/USEPA/US@EPA, Charles Openchowski/DC/USEPA/US@EPA, David Bartenfelder/DC/USEPA/US@EPA, Ron Wilhelm/DC/USEPA/US@EPA
Cc: Helen Dawson/DC/USEPA/US@EPA
Date: 12/06/2012 03:08 PM
Subject: Review of West Lake Landfill Draft Work Plans

Please find attached 4 draft work plans for additional analysis for the West Lake Landfill and other background information. I would appreciate any comments and suggestions concerning these work plans by December 20th and I will forward them to Region 7. In addition, work plans on "Alternative Landfill Cap Designs" and "Fate and Transport Modeling" are expected in the near future. Thanks.

[attachment "Additional Work letter to PRPs for SSFS.pdf" deleted by Charles Openchowski/DC/USEPA/US] [attachment "Work Plan - Apatite Technology.pdf" deleted by Charles Openchowski/DC/USEPA/US] [attachment "Work Plan - Discount Rate.pdf" deleted by Charles Openchowski/DC/USEPA/US] [attachment "Work Plan- Alternative Area 2 RIM Volume.pdf" deleted by Charles Openchowski/DC/USEPA/US] [attachment "Work Plan - Partial Excavation 12-4-12.pdf" deleted by Charles Openchowski/DC/USEPA/US] [attachment "WestLakeLandfillFSUpdateNovember2012-1.pdf" deleted by Charles Openchowski/DC/USEPA/US]

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